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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A lighting control network recovery system for a wireless network of lighting elements, comprising:

a plurality of ballasts, each ballast of ~~said~~ the plurality of ballasts being ~~configured both as~~ configurable as one of a slave element and a ~~replacement~~ network master control unit;

wherein one ~~of said plurality of ballasts~~ ballast is configured as ~~a~~ the network master control unit to control each ~~of said plurality of ballasts~~ ballast that is configured as a slave element, and~~wherein~~ when ~~a~~ the network master control unit is no longer in communcation with one or more of the ballasts ~~no longer functions~~, one of ~~the~~ said ~~plurality of~~ ballasts that is configured as a ~~replacement network master control~~ slave unit ~~takes its place by becoming a new~~ is configured to be the network master control unit ~~and taking control of the lighting control network~~.

2. (Currently amended) The system of claim 1, ~~further comprising~~ including:

at least one remote control unit having a plurality of keys; and

at least one main power line having ~~said~~ the ballasts connected thereto such that:

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a.   the one of ~~said~~ the ballasts that is configured as ~~a~~ the network master control unit is adapted to setup the network configuration of the lighting control network ~~on power-up reset~~ by recording ~~the~~ a registration of each ~~slave element and the association of each slave element with~~ at least one key of the at least one remote control ~~to at least one of the ballasts and~~ to control the at least one ballast ~~said lighting control network~~ thereafter~~, and b. each of said plurality of ballasts, other than said network master control unit, that is configured as a slave element is adapted to join a lighting control network on power-up reset by registering with the network master control unit and associating with at least one of said plurality of keys of said at least one remote control unit~~.

3. (Currently amended) The system of claim 2, wherein ~~said~~ the at least one remote control unit is configured as a slave element ~~and said at least one remote control unit~~ that is connected ~~first~~ to the network master control unit before any of ~~said~~ the plurality of ballasts that are configured ~~both~~ as a slave element ~~and a replacement network master control unit~~.

4. (Currently amended) The system of claim 2, ~~further comprising:~~ wherein:

each ballast includes a non-volatile memory, ~~(NVM) associated with the network master control unit and each said slave element;~~ and

a pairing-link table is stored in the non-volatile memory of the ballast that is configured as the network master control unit ~~and each said slave element, having an initialization as empty and adapted to store c. a registration termed an "enumeration"~~ to record a registration of each ~~said~~ ballast that is configured as a slave element that registers with the network master control unit ~~such that the slave element is listed in the paring link table of the network master control unit,~~ and each ~~d. a~~ binding of ~~each said slave element listed~~ the ballasts in ~~said~~ the pairing-link table with at least one of ~~said~~ the plurality of keys of ~~said~~ the at least one remote control unit, ~~such that the binding is recorded in the paring link table of the network master control unit, wherein~~ and

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the ballast that is configured as the master control unit is configured to
transmit the pairing-link table to each other ballast, ~~the network is established by the~~
~~network master control unit once setup is accomplished and every~~ each time the
pairing-link table is ~~updated~~ modified by the network master control unit, for storage
in the non-volatile memory of the ballasts ~~transmits the update to each said slave~~
~~element~~.

5. (Currently amended) The system of claim 4, ~~further comprising~~ wherein:

the ballast that is configured as the master control unit is configured to ~~a~~
periodically ~~transmitted~~ a beacon packet, and

the ballasts that are configured as the slave element are configured such that
a first ballast that fails to receive the beacon packet:

waits a given delay time,

configures itself as the master control unit, using a same network ID
and the pairing-link table in its non-volatile memory, and

notifies the other ballasts of its reconfiguration as the master control
unit ~~by the network master control unit to each said slave element, said packet~~
~~having status information of the network master control unit and being transmitted~~
~~with frequency F; a periodically transmitted wakeup message by each said slave~~
~~element to the network master control unit, said message being transmitted with the~~
~~predetermined frequency F(tᵢ) and at a predetermined point in time; wherein, when a~~
~~slave element determines that the master is not working from at least one of the~~
~~status beacon packet and the wakeup message, the slave element waits a given~~
~~delay time D and then starts to convert itself to a new network master control unit~~
~~such that the first said element to discover the network master control unit is not~~
~~working becomes a new network master control unit and such that network recovery~~
~~takes place automatically with no need to set up the network control configuration~~
~~again, and wherein the new network master control unit switches to master status~~
~~using a master code that has already been stored in its memory, establishes a new~~
~~network using a same network ID that the previous network master control unit used~~
~~and begins to act as a network master control unit for the new network using the~~

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~~same network ID, informs each said slave element to listen for a beacon from the~~
~~new network master control unit and to send a wake up message to the new network~~
~~master control unit, and updates the pairing-link table of the new network master~~
~~control unit and transmits the updated pairing-link table to each said slave element~~
~~for storage in its NVM.~~

6.   The system of claim 2, wherein ~~on power-up reset if~~ the <u>ballast that is</u>
<u>configured as the</u> network master control unit <u>is configured to:</u>

        <u>determine whether an other ballast has become configured as the master</u>
<u>control unit, and to configure itself as a slave element and register with the other</u>
<u>ballast if the other ballast has been configured as the master control unit,</u>

        <u>determine whether network communications have been lost and reestablishing</u>
<u>the network if the other ballast has not been configured as the master control unit.</u>~~has~~
~~a network ID stored in its non-volatile memory then it has been a master before and if~~
~~the ID is in use the network master control unit enumerates as a slave element to the~~
~~new master of the network with the ID, and if the ID is not in use then the network~~
~~master control reestablishes that network using the ID and pairing-link table so that~~
~~the network can be recovered after a temporary power interruption, otherwise it has~~
~~not been a master before, a random ID is generated and stored in its non-volatile~~
~~memory and its network is established having the randomly generated network ID;~~
~~and if the slave element has a network ID stored in its non-volatile memory it has~~
~~been a slave element in that network before and it rejoins that network so that the~~
~~network connection is recovered after a temporary power interruption, otherwise it~~
~~has not been a slave element in a network before and it tries to enumerate to a~~
~~network master control unit in its radio frequency vicinity.~~

7. (Original) The system of claim 6, wherein the system is implemented using a low
power consumption, two-way wireless communication standard having a protocol and
comprising a radio, a physical layer, a data link layer, and an application layer.

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8. (Original) The system of claim 7, wherein the two-way wireless communication
standard is Zigbee^{TM} and the protocol is Protocol for Universal Radio Link (PURL).

9. (Currently amended) A method for recovery control of a wireless lighting control
network in which a master ballast is configured to facilitate communication of
commands from a plurality of control elements to a plurality of ballasts based on a
pairing-link table that includes a plurality of associations between control elements
and ballasts in the network, comprising ~~the steps of~~:

        communicating the pairing-link table from the master ballast to each of a
plurality of slave ballasts,

        monitoring, at each of a plurality of slave ballasts in the network, for an
indication that a master ballast is present in the network, and

        if a first slave ballast of the plurality of slave ballasts fails to receive the
indication within a given period of time, configuring the first slave ballast to become a
new master ballast in the network, and facilitating communication of commands from
the control elements to the ballasts via the new master ballast, based on the pairing-
link table previously received by the new master ballast ~~providing a plurality of~~
~~ballasts wherein each of said plurality of ballasts is configured both as a slave~~
~~element and a replacement network master control unit; providing one of said~~
~~provided plurality of ballasts configured as a network master control unit to control~~
~~each of said plurality of ballasts as a slave element; when the network master control~~
~~unit no longer functions, replacing the network master control unit with one of said~~
~~plurality of provided ballasts configured as a replacement network master control unit;~~
~~and communicating with each slave element to become a new network master~~
~~control unit and take control of the lighting control network. by the replacement~~
~~network master control unit.~~

10. (Currently amended) The method of claim 9, ~~further comprising the steps of~~
wherein the control elements include keys of at least one remote control unit:

        ~~providing at least one remote control unit having a plurality of keys;~~
~~providing at least one main power line having said ballasts connected thereto;~~

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~~on power-up reset performing the steps of:~~

i.　　~~setting up the network configuration of~~ configuring the lighting control network by ~~the network master control unit, by performing the substeps of~~:

[[-]]　　　　registering each ~~said~~ slave ~~element~~ ballast with the ~~network~~ master ballast, and

[[-]]　　　　associating each registered slave ~~element~~ ballast with at least one of the keys~~one of said plurality of keys of said at least one remote control unit~~; and

ii.　　controlling the lighting control network by the keys, via the ~~network~~ master ballast ~~control unit~~.

11. (Currently amended) The method of claim 10, including ~~further comprising the steps of: configuring said at least one remote control unit is as a slave element, and~~ registering ~~said~~ the at least one remote control unit as a slave element with the ~~network~~ master ~~control unit~~ ballast before registering each slave ballast ~~first~~.

12. (Currently amended) The method of claim 10, ~~further comprising the steps of~~ including:

~~associating a non-volatile memory with the network master control unit and each said slave element;~~

~~providing a pairing-link table in the non-volatile memory of the network master control unit;~~

initializing ~~each said provided~~ the pairing-link table at the master ballast as empty;

enumerating each ~~said~~ slave ~~element~~ ballast that registers with the ~~network~~ master ~~control~~ ballast ~~unit~~ in the paring-link table of the network master control unit;

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binding ~~associating~~ each ~~said~~ slave element enumerated in ~~said~~ the pairing-link table with at least one of ~~said~~ the keys ~~of said at least one remote control unit;~~ ~~recording the bound slave element and its corresponding remote control key as~~ ~~updates in the paring-link table of the network master control unit; informing each~~ ~~slave element of the recorded update made by the network master control unit to its~~ ~~pairing-link table; and updating by the slave element of its pairing-link table with the~~ ~~information of the recorded updates made by the network master control table.~~

13. (Currently amended) The method of claim 12, ~~further comprising the steps of:~~ ~~periodically and at a frequency *F*, transmitting a beacon packet by the network~~ ~~master control unit to each said slave element that includes status information of the~~ ~~network master control unit; periodically and at a frequency *F* and at a predetermined~~ ~~point in time, transmitting a wakeup message by each said slave element to the~~ ~~network master control unit; when a slave element determines that the master is not~~ ~~working from at least one of the transmitted status beacon packet and wakeup~~ ~~message, performing the following steps: a. waiting a given delay *D* by the slave~~ ~~element, and b. when *D* times out, converting itself by the slave element to a new~~ ~~network master control unit;~~ wherein the configuring of the first slave ballast to become the new master ballast includes:

when a master code is already stored in the memory of the new ~~network~~ master ballast ~~control unit~~, establishing a network with the same network ID that the ~~previous network~~ master ballast had ~~control unit~~ used; ~~beginning to act as a network~~ ~~master control unit for the new network;~~

informing each ~~said~~ slave ballast ~~element~~ to ~~listen for a beacon from~~ monitor for an indication that the new ~~network~~ master ~~control unit~~ ballast is present on the network ~~and to send a wake up message to the new network master control unit;~~

updating the pairing-link table of the new ~~network~~ master ~~control unit~~ ballast; and

transmitting the updated pairing-link table to each ~~said~~ slave ~~element~~ ballast.

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14. (Currently amended) The method of claim 10, <u>including,</u> on power-up reset ~~further performing the steps of~~:

<u>at the master ballast:</u>

<u>determining whether the network has been established, and if the network has not been established, establishing the network;</u>

<u>otherwise, if the network had previously been established determining whether the network is already in use, and if the network is already in use,</u> enumerating <u>the ballast</u> as a slave element to a new ~~network~~ master <u>ballast</u> ~~control unit with this ID if the network master control unit has a network ID stored in its memory that is~~ already in use ~~~~;

<u>otherwise, if the network had been established but is not already in use,</u> reestablishing the network ~~by the network master control unit with its stored ID if it is not in use and with~~ <u>based on</u> its stored pairing-link table<u>; and</u>

<u>at each slave ballast:</u>

<u>determining whether the network has been established, and if the network has not been established, reconfiguring itself to become a master ballast and establishing the network;</u>

<u>otherwise rejoining the network</u> ~~when there is no network ID stored in the memory of the network master control unit, performing the steps of: a. randomly generating a network ID, b. storing the ID in its non-volatile memory, and c. establishing its network using the randomly generated network ID, and if a slave element has a network ID stored in its non-volatile memory, rejoining that network by the slave element; and if a slave element does not have a network ID stored in its non-volatile memory, trying to enumerate to a network master control unit in its radio frequency vicinity by the slave element.~~

15. (Original) A system with a low power consumption, two-way wireless communication standard having a protocol and comprising a radio, a physical layer, a data link layer, and an application layer that performs the method of claim 14.

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16. (Original) The system of claim 15, wherein the two-way wireless communication standard is Zigbee^{TM} and the protocol is Protocol for Universal Radio Link (PURL).

17. (New) The system of claim 1, wherein the ballasts that are configured as slave elements are configured to transmit wake-up calls to the ballast that is configured as the network master control unit.

18. (New) The system of claim 6, wherein the ballast that is configured as the network master control unit determines whether the other ballast has become configured as the master control unit each time the ballast is powered on.

19. (New) The method of claim 10, including transmitting wakeup calls from the slave ballasts to the master ballast.

20. (New) The method of claim 14, wherein determining whether the network has been established is based on whether a network identifier is stored at the ballast.